

ABSTRACTLOGIC CIRCUIT AND METHOD FOR CARRY AND SUM GENERATION AND
METHOD OF DESIGNING SUCH A LOGIC CIRCUIT

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Logic circuit for generating carry or sum bit output by combining binary inputs, includes bit level carry generate and propagate function logic receiving binary inputs and generating bit level carry generate/propagate function bits for binary inputs by respectively logically AND and OR combining respective bits of binary inputs; logic
10 generating high output if a carry is generated out of a first group of most significant bits of binary input or if carry propagate function bits for the most significant bits are all high; logic for receiving bit level carry generate and propagate function bits for binary inputs to generate high output if any of carry generate function bits for the most significant bits are high or if carry is generated out of another group of least significant
15 bits of binary input; and logic for generating the carry or sum bit output by combining outputs of the two logics.

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